**Level 3: Future Proofing Strategies – Scientific Strategy.**

**Teachers Note:**

**Discussion Questions**: These are designed to stimulate discussion and build understanding of a **Science - Research and Development** future proofing strategy using “***Zespri Innovation Fund (ZAG),*** as an example.

**Future Proofing Strategy Questions**

**Positive first year for ZAG fund**

Thursday, 10 April 2025 09:25

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<https://www.ruralnewsgroup.co.nz/hort-news/hort-general-news/positive-first-year->

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**As it enters its second year, Zespri says the first year of the Zespri Innovation Fund (ZAG), has been “really positive”.**

Bryan Parkes, Zespri’s head of innovation acceleration, says that since the launch of ZAG in 2023, the fund has established itself as a driver of innovation and sustainability in the kiwifruit industry.

“The first year was really positive – we received 124 applications from right across the globe and from there, 11 moved into pilot programmes,” Parkes told *Rural News.*

Zespri says its innovation fund has become a driver of innovation and sustainability in the kiwifruit industry.

He says those 11 pilots are aligned with ZAG’s four core priorities, which aim to create lasting impact across the kiwifruit ecosystem, with numerous promising projects that focus on technology, resource efficiency, and improving environmental outcomes already showing positive results.

“It’s proved invaluable in connecting with innovative problem solvers both locally and globally to help address key challenges our industry faces as we meet the growing demand for kiwifruit,” Parkes adds.

Earlier this month, Zespri announced its intention to reaffirm its US$2 million investment to the fund, a pledge Parkes says comes out of Zespri’s commitment to fostering a sustainable future for the industry.

“We cannot address the challenges our industry faces alone,” he says. “ZAG will enable us to accelerate our impact by fostering true global collaboration, encouraging innovation, and facilitating strategic investment.”

Parkes says that in the first year of the fund, Zespri has noted that there are several opportunities and innovations that went unexplored.

“We find the ZAG applicants see value in working with a larger commercial partner that can support them both technically and financially to explore the commercial value of their product or ideas, while not looking to take equity in their company,” he says. “ZAG is providing a great ‘welcome mat’ for innovators around the world to engage with Zespri and the kiwifruit industry.”

In year two, the fund is getting refreshed, with an additional focus on Environmental, Social and Governance (ESG) related challenges like climate resilience.

“We are looking for projects or innovations that have at least explored the idea to an early prototype, or where an idea or innovation is working in another sector or crop and may have applicability to kiwifruit,” Parkes says.

The refresh is part of Zespri’s work with its partners to be carbon positive by 2035.

“The annual awards recognise top performance and commitment to customer success,” he says. “As climate change intensifies the kiwifruit industry is facing increasing risks such as extreme weather, shifting growing conditions and pressure on natural resources. ESG initiatives help future-proof orchards by promoting sustainable land use, efficient resource management, and innovative farming techniques that safeguard long-term productivity. We are excited by the advancements we’ve seen as a result of the ZAG Fund pilots to date and look forward to continuing to work with industry partners, research institutions, and local communities to achieve even greater milestones in sustainable agricultural practices,” he concludes.

**Discussion Questions**

1. What types of projects has the ZAG Fund supported in its first year?
2. How is technology being used to improve the kiwifruit industry?
3. Why does Zespri want to work with innovators who already have a prototype?
4. What is Zespri’s goal for being “carbon positive” by 2035?
5. What does “carbon positive” mean?
6. How do Environmental, Social, Governance (ESG) projects help protect orchards from future risks?
7. Why does Zespri believe that they cannot solve all these challenges on their own?
8. What are some short-term results Zespri has seen from the first 11 pilot projects?
9. How might using sustainable farming techniques benefit growers in the long term?
10. What impact could these innovations have on communities outside of the kiwifruit business?
11. Why is it important to test ideas before using them across the whole industry?
12. Why does Zespri want to work with people from around the world?
13. How could the technologies developed for kiwifruit, also help other crops or industries?
14. Why might inventors want to work with Zespri even if Zespri does not take equity in their companies?
15. Why is it important for businesses to invest in innovation and sustainability?
16. How could science and technology help create a better balance between business success and caring for the environment?

**Discussion Answers**

1. What types of projects has the ZAG Fund supported in its first year?

The ZAG Fund supported 11 pilot projects focused on technology, resource efficiency, and improving environmental outcomes. These projects align with ZAG’s four core priorities and aim to create a lasting impact across the kiwifruit ecosystem.

1. How is technology being used to improve the kiwifruit industry?

Technology is being used to increase resource efficiency, improve environmental outcomes, and solve industry challenges like sustainability and productivity. Innovations from other sectors are also being adapted to benefit kiwifruit growing.

1. Why does Zespri want to work with innovators who already have a prototype?

Zespri prefers working with innovators who have at least a prototype because it means the idea has already been explored and can potentially be tested or scaled more quickly within the kiwifruit industry. It also shows the idea has practical applicability.

1. What is Zespri’s goal for being “carbon positive” by 2035?

Zespri aims to be carbon positive by 2035, meaning it wants to go beyond just reducing emissions and remove more carbon from the atmosphere than it produces through sustainable practices.

1. What does “carbon positive” mean?

“Carbon positive” means that an organisation removes more carbon dioxide from the atmosphere than it emits therefore helping the planet rather than just minimising harm.

1. How do Environmental, Social, Governance (ESG) projects help protect orchards from future risks?

ESG projects promote sustainable land use, efficient resource management, and innovative farming techniques, which help protect orchards from climate-related threats like extreme weather and changing growing conditions ensuring long-term productivity.

1. Why does Zespri believe that they cannot solve all these challenges on their own?

Zespri acknowledges that global challenges like sustainability and climate change are too complex to solve alone. They believe collaborating with innovators, partners, and communities worldwide will accelerate solutions and have a broader impact.

1. What are some short-term results Zespri has seen from the first 11 pilot projects?

Several of the 11 pilots have already shown promising results in areas like technology implementation, resource efficiency, and environmental improvement, though specifics are not detailed.

1. How might using sustainable farming techniques benefit growers in the long term?

Sustainable growing techniques help protect soil, water, and crop health, reduce input costs, and increase resilience to climate change therefore ensuring orchards stay productive and profitable over time.

1. What impact could these innovations have on communities outside of the kiwifruit business?

These innovations could inspire or be adapted to other agricultural sectors, helping improve sustainability and productivity in other crops or regions. They could also create jobs, improve resource management, and benefit local economies.

1. Why is it important to test ideas before using them across the whole industry?

Testing ideas through pilot programs helps ensure they are practical, effective, and scalable. It reduces risk and allows for adjustments before widespread implementation, protecting growers and the industry from costly mistakes.

1. Why does Zespri want to work with people from around the world?

Global collaboration brings in diverse ideas, technologies, and experiences, allowing Zespri to address challenges more effectively and find innovative solutions that might not exist locally.

1. How could the technologies developed for kiwifruit, also help other crops or industries?

Technologies that improve efficiency, sustainability, or climate resilience in kiwifruit could often be adapted for use in other crops or sectors, spreading their impact and increasing their commercial value.

1. Why might inventors want to work with Zespri even if Zespri does not take equity in their companies?

Inventors benefit from Zespri’s technical support, industry knowledge, global reach, and funding without giving up ownership of their innovations. This allows them to scale and validate their ideas while retaining control.

1. Why is it important for businesses to invest in innovation and sustainability?

Investing in innovation and sustainability helps businesses stay competitive, adapt to change, meet regulatory and consumer demands, and protect their resources for the future. It also contributes to more resilient supply chains.

1. How could science and technology help create a better balance between business success and caring for the environment?

Science and technology can offer efficient, data-driven solutions that increase productivity while reducing environmental harm. This helps businesses grow responsibly, ensuring long-term success without depleting natural resources.

**Future Proofing Strategy Questions.**

1. Discuss how science and technology-driven strategies would help ensure the long-term viability of a kiwifruit business?
2. Explain how kiwifruit businesses adopting the science and technology-driven strategies ensures the long-term viability of Zespri?

**Answers**

1. Discuss how science and technology-driven strategies would help ensure the long-term viability of a kiwifruit business?

* To ensure the long-term viability of a kiwifruit business, science and technology-driven strategies are essential. These strategies enable businesses to adopt sustainable practices such as precision irrigation, fertigation, and innovations that reduce carbon emissions. These innovations help safeguard the natural resources that kiwifruit production relies on, making operations more stable and environmentally responsible over time. A kiwifruit business that adopts these innovations will stay ahead of trends, solve specific challenges more quickly, and remain competitive in global markets.
* Improved operational efficiency through labour-saving automation tools, digital and data-driven crop management solutions, advanced post-harvest and supply chain technologies helps reduce waste and increase profitability. These efficiencies lower costs and improve margins, making the business more resilient to labour shortages and market fluctuations.
* Consumers and global markets increasingly expect sustainably grown and ethically produced food. Using digital technologies and data systems to enhance transparency and traceability allows kiwifruit businesses to meet current and future market demands. This not only helps secure access to high-value markets but also strengthens brand reputation and the long-term viability of the business.

1. Explain how kiwifruit businesses adopting the science and technology-driven strategies ensures the long-term viability of Zespri?

* When kiwifruit businesses adopt science and technology-driven strategies, they directly contribute to the long-term viability of Zespri, as it relies on a healthy, innovative, and sustainable grower base to supply premium-quality fruit to global markets.
* By using sustainable practices such as precision irrigation, fertigation, and low-emission technologies, growers help Zespri progress toward its environmental goals, including its ambition to be carbon positive by 2035. This strengthens Zespri’s global brand as a leader in sustainable agriculture, increasing consumer trust and market access.
* The adoption of digital tools, automation, and data-driven decision-making also ensures more consistent fruit quality and supply, even in the face of labour shortages, climate change, and resource constraints. This reliability is crucial for Zespri to maintain strong relationships with international markets and deliver on customer expectations.
* Science and technology help meet growing consumer demands for traceability, ethical sourcing, and transparency. As growers implement these technologies, Zespri is better positioned to meet these expectations, retain premium market positioning, and command higher prices.
* By encouraging innovation and collaboration through initiatives like the Zespri Innovation Fund (ZAG**)**, Zespri fosters a forward-thinking industry culture. When growers embrace these innovations, it ensures that the entire supply chain from orchard to market remains resilient, efficient, and globally competitive.

In summary, grower adoption of science and technology is essential for Zespri’s ability to grow sustainably, adapt to change, and remain a viable organisation long term.